



Business for good - Advancing the Energy Transition

Bob Dudley

Group chief executive

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Introduction

Good morning everyone and thank you David for that kind introduction.

It's a privilege to be here as one of the speakers.

I was at the opening ceremony last night and it was incredible – really inspiring. I can't wait to see what today brings.

I've always believed it's important to be open to new experiences – like this one – to see the world through other people's eyes.

What's the perspective from different countries, different cultures and different generations?

That's one of the reasons I wanted to be here – to see you and talk about one of the most pressing challenges of our time.

We've been sending ambassadors from BP to One Young World for 3 years now.

This year I wanted to see what happens for myself as they come back really moved and energised by the whole experience, and full of fresh ideas.

We need that. It's an exciting but challenging time for energy.

These are uncertain times as the industry goes through a period of major transformation.

There have always been challenges, but today is different.

When I started in the industry in 1979 the big fear was about supplies of energy peaking and also global conflicts in Iran and Afghanistan.

How would we keep the global economy moving?

We did what engineers do.

We innovated, evolved and found new ways to discover, produce and supply more energy.

Forty years later, the world sits on top of more resources than it's likely we'll ever need – something like 5 trillion barrels of technically recoverable oil and gas.

We turned a fear of shortage into an age of abundance and we've seen what abundant supplies of energy can achieve.

In the last three decades alone, extreme poverty has been cut in half.

Child mortality globally is also down by half.

Average life expectancy has increased by 7 years.

This has taken place as energy consumption has increased by nearly 80%.¹

That's not proof of cause and effect, but there is an undeniable link between energy and human progress.

To keep making progress we have to ensure that everyone around the world has access not just to sufficient and reliable energy, but energy that is affordable and clean.

That's the mission of Goal 7 of the Sustainable Development Goals, the energy goal.

At BP, we're proud to be a Lead2030 Challenge Partner for this goal.

It is pretty much central to meeting every other major challenge and opportunity the world faces today.

The UN recognises that and we do too in BP. Shell does also, and they are here today.

Right now though, there are profound disparities, depending on where you live and what kinds of energy you have access to.

As I just noted, child mortality rates have dropped globally, but in parts of Africa the risk of a child dying before their first birthday is six times higher than in Europe.

Life expectancy is 20 to 30 years lower in parts of Africa than here in the West.

There are more than a billion people today who still live without electricity – that's 15 out of every hundred people on the planet.

That goes up to 60 out of every hundred in sub-Saharan Africa.

Around three billion people in the world still cook using open fires and basic stoves and that has direct and serious consequences for their health.

Close to 4 million people's lives are far shorter than they should be because of the indoor pollution that comes from those fires and stoves².

Those are all individuals whose lives could and should be improved by better access to better energy.

With more energy, 2.5 billion people can be lifted out of low incomes over the next two decades. At the same time, the global population is expected to rise by around another 2 billion.

All told, we can expect energy demand to rise by around a third by 2040.

That's like adding a whole new China and a whole new Europe's worth of energy demand on top of what's required today.

That's an enormous challenge – and it's only half the story.

The dual challenge

The other half is that we need to bring greenhouse gas emissions down dramatically and quickly to tackle the threat of climate change.

And that's at a time when they are heading in the wrong direction.

After three years when emissions stayed relatively flat they started going up again last year and they look set to rise again this year.

Projections indicate they could grow by around 10% by 2040 when they need to fall by half to be in line with the Paris climate goals.

The UN's Intergovernmental Panel on Climate Change went further last week.

In a report looking at what would be required to keep the temperature rise to 1.5 degrees on pre-industrial times it said emissions need to come down by 45% by 2030.

So, on the one hand we've got to provide much more energy than ever before.

And on the other we have to lower emissions drastically.

People often think the solution is simple: more renewables.

They're right, up to a point, because renewables are growing faster than any fuel in history.

And energy companies are all investing in wind, solar, biofuels and other forms of low carbon energy.

But even optimistic projections only see renewables making up around a third of the energy mix by 2040.

Renewables are going to make a big contribution, no doubt, but they can't do it alone.

We have to find additional ways of bringing emissions down.

Remember, Paris is about a race to lower emissions, not just a race to renewables.

Changing power

It's a race I firmly believe we can win and the first step is to drive coal – a stubbornly high carbon fuel - out of power.

The energy sector accounts for around 35 percent of all man-made greenhouse gas emissions with power generation on its own accounting for a large share of those emissions.³

So what happens in this space really matters.

And here's a statistic that struck me when I heard it.

Back in 1998, coal made up 38% of the global fuel mix in the power sector.

Do you know what coal's share of the fuel mix was last year?

38%.

Exactly the same as in 1998.

So in 20 years, despite all the policy initiatives, all the industry collaboration, all the technological innovation – our world still relies on the same proportion of coal for its electricity.

That's a problem, but it's also an opportunity.

It means we can make a huge difference at speed on emissions and we already have the evidence that it works.

In the US, replacing coal with gas in power generation has helped bring emissions back down to where they were in the early 1990s.

In the UK the change is even more dramatic.

Emissions are back where they were in the 1890s, when Queen Victoria was on the throne.

Gas has made a big contribution to those reductions because it emits half the carbon of coal when burned to produce power.

It's also abundant and affordable, which is really important particularly for developing economies.

And it's the perfect partner for renewables, which by their nature are intermittent. The sun doesn't always shine and the wind doesn't always blow.

To get the full benefit of gas though, we have to prevent the methane from gas production getting into the atmosphere. Methane – the main component of natural gas - is a potent greenhouse gas itself.

That's something we're already working hard to do as individual companies and collectively through organisations like the OGCI.

That's the Oil and Gas Climate Initiative which brings together 13 of the biggest energy companies globally and represents 30 percent of all oil and gas production.

Together we're working to eliminate routine gas flaring and investing heavily in detecting, mitigating and preventing leaks from pipes and production facilities. The effort will use satellites, drones and infra-red cameras on a large scale.

We've also set a stringent methane leakage target – aiming to keep what we call methane intensity below 0.2%.

It's a target that has been endorsed by the Environmental Defence Fund, the Nature Conservancy and the Carbon Mitigation Initiative at Princeton University.

So I think one key way to meet the dual challenge is to squeeze coal out of the power sector and replace it with renewables and natural gas.

Transforming transportation

Another big step we can take on emissions is to transform our transportation system, which accounts for around 15 per cent of greenhouse gas emissions.

That's less than agriculture or manufacturing, but it's one where we can make a significant difference.

In fact, we already are.

The number of electric vehicles on the road is growing rapidly, from under a million in 2015⁴ to over 3 million today.

China alone has almost 500 different EV manufacturers.⁵

EVs are going to make a significant contribution, particularly to improving air quality in urban areas.

But if we want to meet the dual challenge in transportation, we have to think beyond EVs.

Right now, there are around one billion cars on the planet, of which a tiny fraction are EVs.

Over the next two decades, the number of all cars is likely to double, to 2 billion, of which around 300 to 400 million will be EVs if they continue to grow as prolifically as they are doing.

That is a phenomenal change, but it still means more than three-quarters of the fleet – 75 percent – will run on conventional internal combustion engines.

So we need to work on making all vehicles lower emissions vehicles and it's a process that's been underway for some time.

Energy providers are working with motor manufacturers to develop engines, fuels and lubricants that enable vehicles to go further on less fuel, cutting down emissions. Better lubricants reduces friction in engines so you use less fuel.

Here in Europe it's been estimated that cars with conventional engines could be 70% more efficient by 2040 than they were in 2000.

And that increasing use of low carbon fuels, including biofuels, could have the same impact on greenhouse gas emissions as the large scale adoption of electric vehicles.

And if we look beyond passenger vehicles, to air and marine travel – it's a similar story.

If we are going to meet the dual challenge in transportation, we need to embrace new engines, new fuels to power them and new technologies to boost efficiency.

Conclusion – possibilities everywhere

Here's my final thought – and it's the most important one in my opinion.

All of this is possible today.

More energy with fewer emissions is not far-fetched or futuristic.

It's not dependent on any one big technological breakthrough.

The world already has the know-how, resources and, increasingly, the will to do it.

At BP we're committed to advancing a low carbon future. The whole of the company is dedicated to it.

We're reducing emissions in our operations.

We're improving our products so our customers can reduce theirs.

And we're creating low carbon businesses.

Our people love taking on complex challenges and we see possibilities everywhere.

But we don't have all the answers.

That's where you come in.

We need your help and ideas.

We need your energy and your inspiration.

That's what is so significant about One Young World.

Our ambassadors come back fired-up about solving the challenges ahead.

About helping to make all forms of energy cleaner, better and kinder to the planet.

Energy that will meet the needs of the world environmentally and economically and in the process transform the lives of billions of people and keep the world advancing.

That's quite a calling – one of the biggest of our times – and I'd invite you all to be a part of it.

Thank you for inviting me, thank you for listening, and I look forward to a conversation with many of you in a little while.

1 SR2018. Primary energy consumption: 7578mtoe in 1987 vs 13,511mtoe in 2017

2 WHO May 2018 <http://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>

3 Source: [IPCC \(2014\)](#) based on global emissions from 2010. [Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change](#)

4 <https://www.bp.com/en/global/corporate/media/speeches/back-to-the-future-electric-vehicles-and-oil-demand.html>

5 <https://www.wsj.com/articles/china-has-487-electric-car-makers-and-local-governments-are-clamoring-for-more-1531992601>